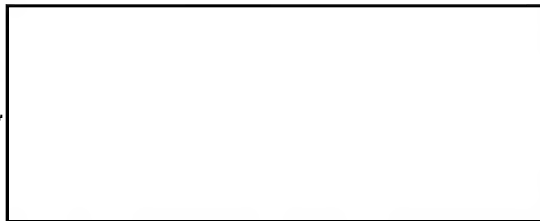1 5 JUN 1965

MEMORANDUM FOR: Executive Director - Comptroller

THROUGH : Deputy Director for Science and Technology
FPBC

SUBJECT : Action Memorandum A-444; ADP in CIA

Transmitted herewith is a report prepared in response to your Action Memorandum A-444. Committee members included:

DD/S    -
DD/P    -
DD/I    -
DD/S&T  -
OBPAM   -

25X1

The DD/S&T member did not concur in the Committee's report. His statement of dissent is attached.

For the record, the Committee met 12 times, visited NPIC, RID, OCS, and were briefed on those operations.

I wish to commend each and every Committee member for the positive way he approached the discussions. Despite honest differences of opinion, the forum provided an excellent base for improving mutual understanding and clarifying the basic ADP issues which face the Agency.
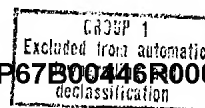
25X1

JOSEPH BECKER
Chairman
ADP Committee

cc: All Members ADP Committee
DD/S&T
FPBC

A REPORT ON AUTOMATIC DATA PROCESSING IN CIA

Prepared in response to Action Memorandum No. A-444, dated 26 March 1965

Prepared by the CIA ADP Committee
15 June 1965

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I. DEFINITION AND SCOPE OF ADP

A. Government-Wide Terms of Reference:

The Executive Office of the President has furnished a definition of the term automatic data processing and identified the scope of automatic data processing activities in terms of equipment involved:

1. The Automatic Data Processing Glossary, provided by the Bureau of the Budget in December 1962, defines ADP: "data processing performed by a system of electronic or electrical machines so interconnected and interacting as to reduce to a minimum the need for human assistance or intervention."

2. Bureau of the Budget Circular A-54 dated 14 October 1961 (referenced in BOB Circular A-71, 6 March 1965) states that ADP Equipment (ADPE) affected by the policies stated therein includes:

   a. "Electronic digital computers, irrespective of use, size, capacity, or price;

   b. "All peripheral or auxiliary equipment used in support of electronic computers, whether or not cable-connected and whether selected and acquired with the computer or separately;

   c. "Punched-card equipment, whether used in conjunction with or independent of an electronic computer; and

    d.   "Data transmission or communications equipment that is selected and acquired solely or primarily for use with a configuration of ADP equipment which includes an electronic computer.

"Analog computers are covered only when computers of this type are being used as equipment peripheral to a digital computer."

"Items of ADP Equipment that are (a) physically incorporated in a weapon, or (b) manufactured for the Government under a developmental contract, are not affected by the policies stated /therein/."

B.   CIA Definition and Scope of ADP:

    1.   The ADP Committee accepted and expanded the broad definition of ADP which is given in A 1, above.

    2.   The Committee agreed that, for the purpose of this study and foreseeable planning, the definition of ADP and scope of ADPE given in A, above, be expanded to include microfilm-based document retrieval systems such as aperture cards and Minicard, the use of special hardware such as the WALNUT film handling devices and Automatic Language Processing (ALP) equipment, automatic communications switching control systems, and analog/digital data processing equipment.

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-2-

3.  Present ADP activities in CIA cover a very broad range of
    applications. These include extremely large document con-
    trol and information retrieval systems, many types of intel-
    ligence data manipulation, statistical analysis, communications
    support, security records handling, the broad range of administra-
    tive data management, and the most advanced mathematical and
    scientific computing. It is obvious that the initial achievements
    the Agency has already realized through automatic data processing
    are but stepping stones to the future and that the range and extent
    of ADP activities will be greatly increased.

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II. GOVERNMENT POLICY ON ADP

A. The Clewlow Report:

1. In a letter to the leaders of Congress, dated March 2, 1965, the President endorsed the suggestions for improvement in governmental ADP activities which are contained in the February 1965 REPORT TO THE PRESIDENT ON THE MANAGEMENT OF AUTOMATIC DATA PROCESSING IN THE FEDERAL GOVERNMENT (Clewlow Report).

2. The Clewlow Report identified some of the major ADP management problems:

  a. Diversity of ADP equipment and its use under varying circumstances.

  b. Great range of computer applications.

  c. The tremendous effect of system design.

  d. Coordination of research efforts.

  e. Contractor use of computers.

  f. Effect of computers on Federal employment.

  g. Selection of equipment.

  h. High cost of computers.

  i. Contracting for computers.

  j. Rental vs. purchase.

  k. Disposal of excess equipment.

  l. Equipment maintenance.

m. Data interchange.

n. Assignment of appropriate roles to the echelons of management.

3. This Government Report outlined actions which should be undertaken by BOB, GSA, etc., to provide for better Government-wide and intra-agency ADP management, such as:

a. The establishment of an ADP equipment classification system.

b. The development of criteria for evaluating the effective-ness of ADP systems.

c. The development of master data processing plans at appropriate agency levels.

d. The development and application of ADP cost principles.

B. Executive Directives:

1. Over the past five years numerous letters, bulletin, circulars, etc., which relate to ADP management and activities, have been sent to the heads of executive departments and establishments. (The Clewlow Report explains some of the difficulties in applying these guidelines and directives to particular ADP requirements.)

2. BOB Circular A-71 was issued in March 1965, following the Clewlow Report, to set forth specific Government-wide ADP responsibilities of the Bureau of the Budget, General Services

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Administration, Department of Commerce, Civil Service

Commission, and the ADP responsibilities of the heads of

executive agencies.

At the same time, the Director of the Bureau of the Budget

reminded agency heads of the Government ADP policies and

guidelines set forth in the following:

a. BOB 60-6: Studies preceding the acquisition of ADP equipment (March 18, 1960).

b. BOB A-54: Policies on selection and acquisition of automatic data processing equipment (October 14, 1961).

c. BOB A-61: Guidelines for appraising agency practices in the management of automatic data processing equipment in Federal agencies (August 3, 1963).

d. BOB A-55: Annual reports on the utilization of automatic data processing equipment (November 15, 1963).

e. BOB 64-9: Establishment of an Experimental Computer Sharing Exchange and Computer Service Center at the National Bureau of Standards (January 2, 1964).

f. Department of Commerce (NBS) letter: Plans for Operation of Experimental Computer Sharing Exchange and Computer Service Center (January 17, 1964).

g. GSA Reg. 36: Utilization Screening of Government-owned and -leased Electronic Data Processing Equipment (April 17, 1964).

h. BOB A-27: Policies and responsibilities on the sharing of electronic computer time and services (June 15, 1964).

i. GSA Temporary Reg. A-1: Government-wide automatic data processing sharing program (November 27, 1964).

C. **Proposed Legislation:**

1. HR 4845 (Brooks Bill) and S. 1584, 89th Congress, 1st Session,

   have been introduced "To provide for the economic and efficient

   purchase, lease, maintenance, operation, and utilization of

   automatic data processing equipment by Federal departments

   and agencies." Both bills provide a basis for the Agency to

   obtain an exemption from their scope on the basis of administrative

   action.

2. The basic objectives of the proposed legislation have been

   endorsed by the Agency. However, a letter from the DDCI to

   the Chairman, Committee on Government Operations, House of

   Representatives, dated 8 April 1965, pointed out that existing

   legislation provides "..., That the Director of Central

   Intelligence shall be responsible for protecting intelligence

   sources and methods from unauthorized disclosure;...."and

   requested statutory exemption for the Agency.

3. It is expected that legislation will be enacted to establish clearly

   Government-wide and intra-Agency responsibilities and authority

   in the field of automatic data processing. Meanwhile, this Agency

   is engaged in clarifying its own ADP structure and strengthening

   ADP management.

4. Hearings on S. 1584 have not yet been held in the Senate.

Hearings on HR 4845 have been concluded in the House and

are to be published soon. The Committee Report on HR 4845

is still being assembled, and while it is not contemplated

that the Committee will accede to the Agency's request

for a statutory exemption, it is expected that the Report

will acknowledge our unique problems and indicate that

the Agency clearly falls within the purview of the administra-

tive exemption provision in the bill.

III. ADP DEVELOPMENTS IN CIA.

A. Punched Card Data Processing:

Punched card data processing and information systems have a significant role in CIA's history. The Intellofax System (DD/I-OCR) for library document retrieval was one of the first (1947) major ADP operations of its kind. In Fiscal Year 1959 there were fourteen punched card units in the Agency.

| Unit | Principal Function |
|------|-------------------|
| MRD (Compt.) | Payroll and finance |
| OCR/MD | Document control |
| OCR/IR | Document control |
| OCR/BR | Document control |
| OCR/SR | Document control |
| OCR/RSB | Document control |
| NPIC | Report generation |
| RID | Document control |
| | Document control |
| FE | Document control |
| OO/C | Management data processing |
| OTR | Statistics |
| OS | Statistics |
| OC | Statistics |

25X1

B. Introduction of Computers:

September 1957: The first computer was installed in the Agency. This was an ALWAC III, installed at NPIC for scientific computing.

October 1959: The first general purpose computer was installed. This was an IBM 650 RAMAC installed in RID, an initial phase in WALNUT.

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October 1960: The RCA 501 computer was installed by the Comptroller to phase out the centralized punched card installation which served the Support components of the Agency.

June 1961: An IBM 1401 was installed in RID to perform additional functions.

October 1961: A Bendix G-15 computer was installed in OC/E for work on special engineering problems. This computer was purchased and is still on hand.

February 1962: An IBM 1410 with a disk unit was installed to replace the IBM 650 in RID for WALNUT operations.

July 1962: An IBM 1401 was installed at NPIC for report generation.

November 1962: An RCA 301 was installed to provide input/output support to the RCA 501.

January 1963: A Computer Center was established by the DD/S (ADP Staff)--a service center for all Directorates. The two computers initially installed were IBM 1401 and IBM 1410.

February 1963: The UNIVAC 490 was installed at NPIC to provide on line support to analysts.

July 1963: The IBM 7090 was installed in the ADPS Computer Center to perform scientific computing for OSA and provide the Agency's first large-scale scientific computing capability.

November 1963: Two UNIVAC 1004's were acquired by OSA to provide data link facilities.

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February 1964: An SDS 920 was installed in a compartmented section of the OCS (formerly ADPS) Computer Center for FI/D.

July 1964: A second IBM 1410 was installed in RID to replace the 1401.

October 1964: Collins Max I was installed overseas by COMMO.

December 1964: A third UNIVAC 1004 was acquired for the OSA data link.

December 1964: An SDS 910 was acquired for special operations in OEL.

January 1965: A second SDS 910 was installed in OEL.

C.  Development of ADP Organizations:

1.  There were numerous punched card data processing organizations in the Agency during the period 1947-1957, before the first computer was installed. The largest of these punched card organizations were in the DD/I (OCR).

2.  The DD/P System Group was the first ADP staff established (about 1956) at the Directorate level--to develop Project WALNUT.

3.  In 1958 the Automation Development Group was established in the DD/I, OCR. This staff was concerned primarily with the testing and implementation of the Minicard system.

4.  Notice No. 7-200-2 (25 June 1959) announced the establishment of an Automatic Data Processing Committee "...to provide Agency-wide guidance and authoritative screening for all aspects of data processing requirements and equipment...."

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5. In 1959 the DD/I Automation Staff was formed. This elevated computer planning to the Directorate level in the DD/I.

6. By September 1961 OCR consolidations resulted in a reduction from five punched-card organizations to two.

7. In 1961 Agency management created the CIA ADP Staff. This new Staff, with Agency-wide responsibilities, absorbed the DD/I Automation Staff slots and personnel, and the DD/S contributed additional slots from the former CIA Management Staff.

8. In July 1963 the ADP Committee considered alternative plans for organizing ADP resources in the Agency. Failing to reach an agreement, this committee became inactive.

9. In August 1963 the ADP Staff was renamed the Office of Computer Services and assigned to the DD/S&T.

10. In November 1963 the Automatic Data Processing Division (ADPD) was transferred from the Comptroller to OCS and absorbed into the CIA Computer Center.

11. In April 1964 the DD/I announced the appointment of a DD/I CHIVE Officer to represent DD/I management interests in this joint OCS/OCR project.

12. In May 1964 Panel 375 was established pursuant to DCI Action Memorandum A-375. Its purpose was to develop "the best possible information handling system for CIA."

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13. In May 1964 the Information Processing Division, NPIC, was

   established to consolidate its two previous computer centers.

14. In September 1964 the DD/S designated a coordinator of elec-

   tronic data processing activities in the Support Directorate.

15. In March 1965 the Support Information Requirements Group

   was established in the DD/S to develop an integrated management

   information processing system (MIS) to serve the Support

   Directorate and the Agency at large.

IV. MEASURE OF CIA ADP ACTIVITIES

A. Fiscal Years 1960 and 1965:

1.  It is difficult to measure and compare the level of personnel

    (and consequently dollars) as well as equipment attributable

    to ADP activities in the Agency over a period of several years.

    This is primarily because there have been no satisfactory

    measurement factors established in this rapidly developing

    field. Even though ADP equipment and personnel utilization

    figures have been assembled annually by this Agency since at

    least 1959, this exercise has lacked continuity in several

    respects. For example, at times various ADP activities have

    been compartmented, for security reasons, from the group

    assigned to enumerate the ADP inventory. In fact, to date

    Agency management has not officially authorized and charged

    anyone with this total task. Prior to 1965 only unclassified

    information was assembled in the annual ADP report to the

    Bureau of the Budget. Even then, each of the Agency's fifteen

    ADP units (eight with computers and seven with only punched

    card equipment) which were counted in that inventory, made

    its separate decision on who to include in its count of ADP

    personnel. Consequently some counted Flexowriter operators

    preparing data in the customers' offices and some did not, and

    there were many other discrepancies in the count.

2.   The Committee reviewed the figures that have been compiled

over the past five years and agreed that the amounts stated

below and shown in Figure 1 fairly represent the Agency's ADP

dollar and personnel levels in 1960 and 1965.

3.   In 1960 the Agency had two (2) small computers (ALWAC III

and IBM 650).   Total ADP costs for that year were figured to

be roughly [                    ] and approximately   25X1

[                    ] people were identified as being with the

Agency's ADP activities.   Most of these people were associated

with punched card data processing operations.   The principal

functions performed by ADP in the Agency at that time were

document control and administrative support.                    25X1

4.   In 1965 the Agency has [          ] computers [                    ]

[                    ] Total ADP costs for this year will

amount to about [                    ] The count of   25X1

Agency ADP personnel is roughly [              ] Currently   25X1
                                                              25X1

[                                                              ]

of the manpower relates to punched card activities.   ADP now

provides some support to almost every type of activity in the

Agency.   Emphasis has recently been placed on developing advanced

25X1

25X1

mathematical and scientific computing capabilities. At the same time major new systems are being developed in the field of information retrieval and management support.

B. Fiscal Year 1970 - Projection:

1. The Committee was not able to come up with any scientific method for projecting the level of ADP activities in the Agency for the next five years. However, it recognized that it was probably in a better position than anyone else to make such an estimate for Agency management.

2. Undoubtedly, most punched card processing operations will be phased out by 1970. One major exception will be DD/I (OCR) information retrieval from existing punched card files which are prohibitively expensive to convert. Nearly all other functions now performed on punched card equipment will be handled on computers with fewer operators involved. However, this is probably the only factor by which the number of ADP personnel will be reduced during the next five years. Conversely, as computer hardware capabilities increase there follows a rapidly growing need for system designers, programmers, etc. This will be particularly true during the next five years with the advancement to third generation computers and the implementation of major ADP systems which are already under development in the Agency.

3. Probably the greatest impact on the Agency work force, resulting from ADP, will be in the area of data analysis or manual indexing and other functions required to prepare data for machine input. However, the ADP Committee has not dealt with that problem in this study.

4. As shown in Figure 1, the Committee's educated guess regarding 25X1 1970 is that the Agency's ADP personnel will number about 25X1 and annual ADP costs will be about This could vary considerably due to the impact and effectiveness of advanced ADP technology which remains to be demonstrated. However, we are speaking of something which may approximate 5% of the Agency's total annual manpower and dollar assets. The ADP personnel projection is based on an assumption that total Agency manpower remains the same but as ADP activities increase the trend will be to develop new skills and shift personnel to ADP activities.

5. In return for these large scale expenditures, the Agency should be reaping major additional benefits from ADP by 1970. Projected advantages include the following: in the scientific area there will be flexible large scale analog-digital processing, remote display capabilities, and the most advanced mathematical computing support. Comprehensive intelligence collation and analysis support systems will be further developed. A significant portion of the Agency's new information retrieval system (CHIVE) will

25X1

25X1

be operational. There will be improved WALNUT services

in the DD/P, with the integration of source data preparation

overseas and high speed telecommunications with Headquarters

computer processing planned. At NPIC, an extension of on-

line remote terminal facilities will be serving analysts with

displays and recall of target information, input and editing of

reports, stereo measurement and sophisticated plotting.

Computers will be introduced to help with the control and

distribution of Agency cables. The security records system

will be automated as will be significant elements of the Agency's

printing workload. An effective computer driven management

information system which reflects human, materiel, and

financial resources should be a reality. Inevitably, there

will be unforeseen new ADP applications in the Agency during

the next five years.

## V. ASSIGNMENT OF ADP ROLES

A. <u>Function Definitions</u>:

1. <u>ADP Management</u>: Planning, coordination, and control of Agency ADP activities.

2. <u>ADP Requirements</u>: Identification of specific data processing needs. The first step in data processing is to define the requirements. Inherent in the function of requirements definition is the thorough study and analysis of existing systems, methods, and procedures; the creation of new functional systems structures; the identification of specific areas of activity which may profitably use ADP techniques; the determination of ADP feasibility; the implementation of improved manual methods; the specification of requirements to be satisfied by computer systems; and the collaborative participation with computer system designers and job programmers to ensure that the computer system designed will satisfy the requirements adequately.

3. <u>ADP Systems Design</u>: The preparation of complete project specifications and detailed logical processing ADP steps. ADP system design is a function normally performed by ADP system specialists having the highest level of technical skills and knowledge of requirements, working in cooperation with the people and components charged with responsibility for mission

accomplishment. The principal objective of ADP system design is to devise techniques and methods for the use of the best available equipment and devices to satisfy the ADP requirements.

4. ADP Job Programming: Writing, debugging and testing the complete sequence of job instructions (computer steps) in machine readable language. Programming relates very closely to system designing for any given job.

5. ADP Operations: This includes the operation of ADP equipment and the scheduling (subject to priorities established by management) and control of the data processed. Equipment operated includes computers and their peripheral or auxiliary hardware, independent punched card machines, etc. Scheduling and control includes the receipt, set-up, scheduling of data to be processed, the distribution of end products, and the physical control of machine language files (e. g. , punched card and magnetic tape files) and processing instructions.

6. ADP Systems Programming: Systems programming (versus job programming) shapes the executive system program under which the computer handles all jobs. Systems programming has a direct bearing on job programming standards. Advanced ADP technology places increasing emphasis on the systems programming function.

B.  Clewlow Report:   The Clewlow Report specifically identifies

assignment of ADP roles as a major problem, both within executive

agencies and in the Government as a whole.   It points out the com-

plexity of the problem and indicates that there are no firm solutions

regarding the organizational disposition of ADP resources.

> "The assignment of appropriate roles to the different echelons
> of management in the Federal Government is of great im-
> portance   Some computer applications, particularly those
> involved in administrative functions, have a great deal in
> common and conceivably could be subject to greater cen-
> tralization.   On the other hand, the more significant computer
> applications are integral parts of agency programs; accordingly,
> each is a unique application and its management is a responsi-
> bility of those officials charged with mission accomplishment.
> The problem then becomes one of improving the effectiveness
> and the economy of computer utilization, both within an execu-
> tive agency and in the Government as a whole, without derogat-
> ing the proper authorities and responsibilities of managers in
> the line."

C.  Executive Directives:

1.  Since 1960 the Bureau of the Budget has addressed itself to

specific problems relating to the management of automatic

data processing in the Government through the issuance of

circulars and bulletins.   Each one has dealt with a particular

subject  surfaced to the Bureau of the Budget as a specific

problem in ADP management at a particular time.   The most

recent of these, Bureau of the Budget Circular A-71, deals

with responsibilities for the administration and management

of automatic data processing activities within the executive

branch of the Government as well as within the individual

departments and agencies. It represents, in a sense, the

aggregate of the experience gained from their earlier one-

problem-at-a-time approach taken together with the conclusions

and recommendations offered in the Clewlow Report. CIA has

had a somewhat parallel experience in the evolution of ADP

activities as can be seen from the chronology of ADP develop-

ments listed earlier in this report. While the Agency has not

had a central mechanism to govern ADP developments in the

sense that the Bureau of the Budget is now suggesting executive

departments and agencies should have, we have had a mechanism

for monitoring developments in the form of the Automatic Data

Processing Committee, the Automatic Data Processing Staff and

its organizational successor, the Office of Computer Services.

While these mechanisms may not have been completely effective

in terms of exercising management control at the Agency level,

they have served a useful coordinating and monitoring purpose.

The absence of comparable mechanisms in other agencies

probably led to the conclusions and recommendations set forth

in the Clewlow Report, now adopted by BOB and endorsed by

the President. Even though the Agency may not be in a position

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to say that it has already satisfied all of the provisions of the

Bureau of the Budget Circular A-71, it is fair to say that our

growth in the automatic data processing business has not been

any more proliferate than has anyone else's in or out of Govern-

ment and that we may have given more attention to responsible

Agency management from the over-all point of view than have a

great many others.

2.  BOB Circular A-71 states: "The heads of all executive depart-

ments and establishments are responsible for the administration

and management of their automatic data processing activities

including:

a.  "Agency-wide planning, coordination and control of

equipment utilization."

Comment: No viable mechanism exists in

CIA with the clear mission to develop policy,

coordinate planning, or otherwise monitor

Agency-wide ADP activities.

b.  "Determination and use of those equipment applications

that offer the greatest return in terms of increased

effectiveness in mission accomplishment and higher

productivity."

Comment:  Within CIA, judgment on these

matters has been principally a Directorate

responsibility.   To a limited extent but

on the basis of the best information avail-

able, the Project Review Committee has

given Agency-wide consideration to this

problem.

c.   "Development of data systems that employ the use of the

most advanced design techniques."

> Comment:  The Agency's reputation and
>
> standing with regard to the employment of
>
> advanced techniques for information storage
>
> and retrieval is very high.  It pioneered
>
> systems such as WALNUT and INTELLOFAX,
>
> and currently is designing CHIVE which in-
>
> corporates concepts that are in the forefront
>
> of the field.

d.   "Merger or integration of data systems irrespective of

intra-agency or interagency organizational lines, when

cost effectiveness in equipment utilization, data systems

management, or program accomplishment can be increased."

> Comment:  The Agency has not had a practical
>
> means of monitoring cost effectiveness in equipment
>
> utilization in an over-all Agency context because no

satisfactory evaluative criteria have been estab-

lished in the Agency or elsewhere in the Govern-

ment. However, specific ADP units have been

merged within and between Directorates. Recent

examples include the merger of ADPD (Comptroller)

with OCS and the consolidation of two ADP units at

NPIC.

e.    "Determination of automatic data processing equipment

requirements."

Comment: The Agency has no effective mechanism for

providing central technical review of Agency-wide ADP

equipment requirements. However, long range equip-

ment planning has been evident within the Directorates,

e.g., Project WALNUT in the DD/P, and OCS plans

involving third generation hardware.

f.    "Sharing equipment time and services within the agency, and

with other agencies through support of the Government-wide

program for sharing exchanges; cooperation in the establish-

ment of service centers and other interagency joint use

arrangements."

Comment: The Agency's ADP components share

equipment time and services regularly. Files and

-26-

programs are exchanged with NSA, DIA and

other members of the Intelligence Community.

Computer time is provided to other Government

agencies within the limits of security considera-

tions and likewise Agency jobs are sometimes

run on other Government computers.

g.  "Consideration of the potential impact of the introduction of

ADP equipment on the agency work force and taking such steps

as are necessary to alleviate adverse effects to the greatest

extent practicable. "

Comment:  No over-all Agency approach to this

problem has been developed, even with respect to

determination of the suitability or re-training

potential of punched card personnel for computer

operations.  It should be noted, however, that CIA

has long had various man-machine systems of

recognized support capability and that Agency

personnel, generally, have accepted the fact that

machines are useful tools; introduction of computer

equipment, therefore, has less negative impact here

than in organizations without experience with

punched card equipment.

h.  "Participation in Government-wide studies and programs for

improving the administration and management of automatic

Comment: The Agency participates, within security limitations, in several inter-agency groups which deal with ADP problems. These groups include the Interagency Committee on Automatic Data Processing, the Interagency Group for Research on Information Systems (IGRIS), the USIB Committee on Documentation (CODIB), and the Committee on Scientific and Technical Information (COSATI).

3.  The intent of the Directives is to ensure that ADP functions in each Agency will be managed effectively with appropriate care and attention given to cost of mission and effectiveness.

D.  Agency Considerations

1.  Although security problems and advanced ADP technology have a strong bearing on ADP activities in the Agency, the Committee dealt primarily with the problem of organization and the assignment of ADP roles.

2.  Throughout its deliberations, the Committee recognized that ADP is certain to expand and play a larger role in CIA over the next decade. ADP is a highly technical and complex function involving more and more of the Agency's manpower and dollar resources; therefore, it deserves greater attention by Agency management.

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3.  While computers alone are not going to provide the total

    answer to CIA's problem of analog and digital data indigestion,

    they offer the only practical means of coping with the high data

    volumes collected in the intelligence process.

4.  The majority of the Committee felt that there is a clear

    distinction between coordination, review and other staff

    functions which need to be performed on an Agency-wide

    basis--and directly responsive to top management--and

    line responsibilities for the conduct of ADP operations.

    A further distinction was drawn between types of applica-

    tions. There are those clear-cut production jobs in all

    Directorates which lend themselves to central processing

    while other ADP applications are most effective under com-

    plete Directorate control.

5.  The ADP Committee concluded that the position of Assistant for

    Data Processing should be established at the DCI level. At

    the same time it agreed that there is a need for equivalent

    staff functions to be performed at the Directorate level.

    Finally, it endorsed the idea of a CIA Computer Center to

    perform requested services for the Directorates and it

    developed a concept for approving mission-oriented computer

    facilities.

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E. How to Organize ADP in CIA

1. The Committee considered several alternative approaches to organizing ADP in CIA, ranging in extreme from full centralization of all ADP resources in the Agency under the command structure of one organizational component to total decentralization with ADP units in as many components as may feel the need to have them. Other alternatives between the two extremes were also discussed in varying degrees of depth. The consensus of the majority of the members, however, seems to be that in the absence of better evidence than is presently available (or could in the time available, be produced by the Committee) no one of these alternatives could be recommended more highly than another. All rejected total decentralization. One member supports total centralization. Two members felt that on-line applications involving complex interplay between manual and computer based reference facilities, as well as certain developmental activities, and certain highly sensitive applications, can be most effectively managed under complete Directorate control. The other two members believe it feasible to have selected decentralized facilities serving the command structure of the environment in which they are located while preserving centralized technical management control over equipment and ADP personnel without doing total violence to either principle.

2. A part of the difficulty is the lack of complete unanimity among

the members about what is, or should be, meant by such terms

as "mission-oriented" and "ADP Center." "Mission-oriented"

can be interpreted to mean "devoted exclusively to and an integral

part of the data processing continuum of a particular function,"

such as the RID index and document retrieval system or the

Special Register of OCR; or it can be interpreted to mean

"devoted exclusively to the satisfaction of the data processing

requirements of a particular organization component," such as

the Clandestine Services or the entire Office of Central Reference.

The term "center" can be interpreted to mean "equipment,

equipment operators, and system programmers"; it can be

interpreted to include equipment, equipment operators, system

programmers, job programmers, system analysts, and system

designers; it can be interpreted to include varying combinations

of these or other categories of technological expertise; or, to

further complicate the issue, it can be interpreted to include

kinds of service rendered in addition to the several combinations

of expertise available. When the two terms are combined to

describe a "mission-oriented center," the potential for mis-

understanding, or lack of understanding, is infinite. In an

atmosphere of terminology as imprecise as this, the Committee

was unable to obtain unqualified acceptance of a premise that the

preservation of the status quo represents a condition or set of conditions which should or should not continue indefinitely to be tolerated.

3. The Committee recognized that four major ADP facilities now exist in OCS, RID, NPIC, and OCR. The first three are computer based and the fourth is punch-card based. Each of the latter three considers itself to be a "mission-oriented center," but the consensus of the Committee is that at least two, and perhaps all three, represent differing applications of the two terms individually and in combination. The individual Directorate philosophies can be seen in the attachments to this report.

4. The course which most closely expresses the majority view is presented below. The Committee notes, however, that the validity of settling on any one course is suspect because criteria to measure effectiveness of mission accomplishment and security considerations in balance against cost of one or another of the several possible alternatives have not been established to everyone's satisfaction. The development of such criteria, therefore, is a major task to be undertaken to permit informed management decisions to be made. With this basic point in mind, the course suggested is to:

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a. Establish a staff in the Office of the DCI to assist him in providing Agency-wide policy, coordination, and management of ADP plans, activities, and operations. This staff should consist of an Assistant For Data Processing and a group qualified to recommend to the DCI suitable courses of action with respect to ADP in the Agency. Its responsibilities should include the following:

1. Advise and represent the DCI on matters relating to ADP in CIA.

2. Serve as the focal point in CIA for the development and enunciation of policies, criteria, and standards governing the selection, acquisition, and application of Agency ADP resources.

3. Recommend new ways to exploit ADP capabilities in support of substantive, operational and administrative Agency interests.

4. Plan for the most effective development of Agency ADP data systems, and for the employment of the most advanced ADP techniques.

5. Review Directorate ADP plans to ensure their consistency with the over-all Agency plan.

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6.  Define training requirements; develop an educational

and training program to promote better understanding

of ADP and broaden the general background among

Agency managers at all levels; provide for the develop-

ment of a suitable inhouse training capability as required;

and plan for the systematic participation by selected

Agency employees in suitable internal and external

training programs.

b.  Establish a comparable capability in each Directorate to

coordinate ADP activities. Duties would include: defining

the Directorate's data processing requirements and serving

as a focal point for review and coordination of Directorate

and inter-Directorate ADP interests.

c.  Accept and recognize three demonstrably needed computing

centers and one major punched card facility in CIA at this

time. The principal one--the CIA Computing Center, offers

centralized services to all Directorates. The two computing

centers, in NPIC and in DD/P, and the OCR Punched Card

Center support their respective line organizations. New

centers are to be established when the need arises and if

they can be justified. Recommendations for establishing

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new centers would be reviewed by the Assistant for

Data Processing. Conversely, if conditions indicate

that fewer centers are desirable, the Assistant for

Data Processing would have the responsibility to

recommend that action to the DCI. A suggested list

of functions for the Assistant for Data Processing is

contained in Attachment A.

5. The DD/S&T member of the Committee, [          ] is not in   25X1

agreement with the above. He feels that important economic and

technical matters were given little, if any, consideration.

Therefore, he has prepared his separate views on organizing

ADP in the Agency. These are contained in Attachment E.

## VI.   CONCLUSIONS

1.   ADP activity in CIA is expanding rapidly and is certain to have a long-range impact on the effectiveness with which the Agency and the Intelligence Community manage and use their substantive and administrative data.

2.   ADP per se is a highly specialized function.   However, its utilization as a management tool must be fully explored.   ADP is closely tied to technological development and must therefore be staffed with professionally qualified personnel if optimum results are to be attained.   It requires a concerted effort to educate and broaden the general background of Agency managers at all levels in the potential and capability of modern technology.

3.   ADP activities in CIA are partially dispersed and there is a great and continuing need for increased communication and education among Directorates on ADP matters.

4.   The focus of ADP management should be placed at the top of the organization to enable the Director to meet and fulfill his responsibilities under existing executive directives.

5.·   The ADP security problems which confront CIA are not dealt with in Government-wide regulations, BOB guidelines or proposed legislation.

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6. The Office of Computer Services in the DD/S&T, in addition to the support of its Directorate, should be charged with performing those computer services requested by the various components of the Agency.

7. New computer centers should be authorized only when justified and approved by the Director.

## VII. RECOMMENDATIONS

1. The growing importance of ADP in CIA and in the intelligence community should be recognized and the DCI should appoint an Assistant whose principal responsibility is to advise and represent him on matters relating to ADP.

2. The Assistant for Data Processing should be charged with advising the DCI on Agency progress in compliance with Executive Directives on ADP.

3. The Assistant for Data Processing and a staff of technical personnel should be attached to the Director's Office to advise him on matters relating to ADP and to recommend suitable action.

4. Each Deputy Director should appoint an ADP Coordinator to define his Directorate requirements for ADP support and ensure their coordination with Agency plans.

5. The Executive Director's Panel 375 and the CIA ADP Committee should be dissolved with the establishment of the position of Assistant for Data Processing in the Director's Office, and Directorate ADP coordinators to meet at his call.